

REMARKS

The Final Office Action mailed July 31, 2008, has been received and reviewed. Applicants note the partial withdrawal of the previous rejections/objections with appreciation. Applicants respectfully request reconsideration

35 U.S.C. §103

Claims 3 and 13 stand rejected under 35 U.S.C. §103(a) as allegedly being made obvious by Weld et al. (2002, *Plant Cell, Tissue and Organ Culture*, 69:45-54; hereinafter 'Weld') in view of Clough et al. (1998, *The Plant Journal*, 16:735-743; hereinafter 'Clough'). Specifically, the Office alleges that it would have been obvious for a person of ordinary skill in the art to use the floral dip method disclosed in Clough to introduce the T-DNA construct carrying the *Ac* transposase into the *H. aurantiacum* previously transformed with a transposase-free transposon. Office Action of December 12, 2007, page 3. Applicants respectfully traverse the rejection.

Applicants note MPEP Section 2141.02 (VI) which states, "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." MPEP §2141.02 (VI) citing, *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Claims 3 and 13 are not obvious because one of ordinary skill in the art, upon considering Weld and the prior art as a whole, would not be motivated to use *in planta* transformation (a form of co-transformation/co-transfection) as taught in Clough, as Weld specifically teaches against using co-transformation/co-transfection methods. Indeed, Weld expressly teaches and suggests that co-transformation/co-transfection methods are not favorable for transposition mediated by transient transposase. Weld, paragraph bridging pages 45-46. Additionally, Weld identifies a multitude of reasons and potential problems associated with the co-transformation/co-transfection methods, *e.g.*, the methods taught in Fitzmaurice et al. and Houbaher et al. *Id.* Specifically, Weld states that co-transformation/co-transfection 1) may result in co-integration of constructs at the same locus; 2) could hinder segregation of the transposed *Ds* element away from the transposase construct; 3) is capable of inducing mutations through integration and repair of integration intermediates which could complicate any attempt at gene tagging; 4) does not take advantage of a particular attribute of the *Ac/Ds* system; and 5) does not

allow selection of plants with a stable *Ds* excision locus linked to the target gene prior to mobilizing the *Ds* element. *Id.* Thus, upon considering the teachings of Weld, a person of ordinary skill in the art would clearly not be motivated to use co-transformation/co-transfection methods, much less the *in planta* transformation method taught in Clough.

Moreover, Weld states that a particular advantage of the transposon/transient expression system (*Ac/Ds*), namely the ability of the *Ds* element to preferentially transpose to sites near to the excision site in some species, is lost if co-transformation/co-transfection methods are used. *Id.* Because of the loss of the *Ds* element's ability to preferentially transpose, a person of ordinary skill would be discouraged from using co-transformation/co-transfection methods.

Applicants additionally submit that even if a person of ordinary skill in the art would be motivated to combine the teachings of Weld and Clough, which applicants dispute, applicants' claimed process provides an unexpected advantage from the subject matter disclosed in both Weld and Clough. The MPEP states "[a] greater than expected result is an evidentiary factor pertinent to the legal conclusion of obviousness ... of the claims at issue." MPEP § 716.02(a)(I), citing *In re Corkill*, 711 F.2d 1496, 226 USPQ 1005 (Fed. Cir. 1985).

Specifically, in the leaf disc method described in Weld, a tissue carrying a *Ds* element is transformed with a transposase encoding DNA. Because the transposon is not deleted from all of the cells in the tissue, it becomes necessary to isolate and distinguish those cells whose transposon is removed. This process is very labor intensive. In contrast, in the instantly claimed method, eggs carrying a *Ds* element were transformed with the transposase encoding DNA. Therefore, while one or more cells may need to be selected, there is no chimeric tissue and it is unnecessary to distinguish and select for those cells that do not have the transposon removed.


Applicants submit that claims 3 and 13 are not obvious because one of ordinary skill in the art would not be motivated to combine the teachings of Weld with Clough, as Weld expressly teaches against using the methods taught in Clough. Claims 3 and 13 are additionally not obvious as the claimed methods provide unexpected advantages over the prior art. Accordingly, applicants respectfully request withdrawal of the 35 U.S.C. § 103 (a) rejections.

CONCLUSION

In light of the above amendments and remarks, the application should be in condition for

allowance. If questions remain after consideration of the foregoing, or if the Office should determine that there are additional issues which might be resolved by a telephone conference, the Office is kindly requested to contact applicants' attorney at the address or telephone number given herein.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Todd E. North", written over a horizontal line.

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